

## **REMARKS**

Entry of the amendment instructions above and favorable reconsideration and allowance of this application are requested.

### **1. Discussion of Claim Amendments**

By way of the amendment instructions above, claims 1, 18 and 19 have been clarified to emphasize that the recited Shore A hardness values are at a time delay of 15 seconds. Support for such amendment can be found in the specification as originally filed in Table 2. (The Examiner can take Official Notice of the fact that the disclosed ISO 868 standard is equivalent to the ASTM D 2240 standard.)

In addition, pending claim 1 has been amended so as to state that the oil/elastomer ratio is at least 2.1/1, support for which can be found in Table 1, Example I on page 9 of the originally filed specification. An appropriate amendment to the specification has also been made for conformity.

Therefore, upon entry of this amendment claims 1-10 and 12-18 will remain pending herein for consideration for which favorable action is solicited.

### **2. Response to 35 USC §112 Rejection**

The amendments noted above to claims 1, 18 and 19 are believed to render moot the Examiner's rejection advanced under 35 USC §112, second paragraph. Withdrawal of the same is therefore solicited.

### **3. Response to Art-Based Rejections**

#### **A. Rejections Based on Ouhadi**

Claims 1019 and 12-17 were rejected under 35 USC §102(b) as allegedly anticipated by or, in the alternative, under 35 USC §103(a) as obvious over Ouhadi (EP

757 077), with extrinsic evidence being provided by Jourdain et al (USP 5,571,883). In addition, claims 18-19 were separately rejected as allegedly obvious under 35 USC §103(a) over Ouhadi.

Applicants emphatically disagree with the Examiner's conclusion that Ouhadi discloses a thermoplastic elastomer composition according to the applicants' pending claim 1.

In this regard, the Examiner states that Entry 1 of Table 1 of Ouhadi teaches a composition comprising 26.82 wt% of V3666 EPDM (containing 42.9 wt% extender oil and 57.1 wt% EPDM), 7.77 wt% of RP 210 polypropylene resin, and 35.17 wt% of Flexon 876 processing oil. The composition further contains 14.30 wt% Cariflex 1220 butadiene rubber and some additives in minor quantities.

The Examiner further states that the total amount of oil is  $11.5 + 35.17 = 46.67$  wt% and that the ratio of oil to elastomer is  $46.71/11.5 = 3.05$ . The latter calculation with respect to the ratio of oil to elastomer is however incorrect. Specifically, in making such a calculation the Examiner has overlooked the amount of Cariflex 1220 which is also an elastomer. Thus calculating the oil/elastomer ratio (see presently pending claim 1), would lead to  $46.67 \text{ wt}\% / (0.571 * 26.82 \text{ wt}\% + 14.30 \text{ wt}\%) = \underline{1.58}$ .

Similar calculations for the other runs disclosed by Ouhadi lead to the following oil/elastomer ratios:

runs 2-4, 6 and, 9: oil/elastomer ratio = 1.58;

run 5: oil/elastomer ratio = 1.34;

run 7: oil/elastomer ratio = 0.65;

run 8: oil/elastomer ratio = 0.45; and

runs 10 and 11: oil/elastomer ratio = 1.78.

Thus none of the compositions disclosed by Ouhadi satisfies the criterion of presently pending claim 1 that the oil/elastomer ratio should be **at least 2.1/1**. Therefore claim 1 and all claims dependent therefrom are novel with respect to the Ouhadi patent.

The calculations above are also instructive as to the **unobviousness** of the presently claimed invention in light of Ouhadi. Specifically, the calculations above demonstrate that Ouhadi actually teaches away from the relatively high oil and low hardness compositions as claimed in the present application which do not include any styrenic elastomer therein.

As such, withdrawal of the rejection advanced against the pending claims under 35

#### **B. Rejection Based on Dozeman**

Claims 1-10, 12, 14-15 and 18-19 attracted a rejection under 35 USC §102(e) as anticipated by or, in the alternative, under 35 USC §103(a) as obvious over Dozeman et al (USP 6,750,292). Applicants also emphatically disagree with the Examiner's conclusion in this regard.

Dozeman et al. disclose an oil/EPDM ratio of the rubber in the TPV between 0.7 and 2.0, preferably between 1.3 and 1.6 (Dozeman et al. column 2, lines 48-51). Therefore, since the amended version of claim 1 as presented above recites that the oil/elastomer ratio in the compositions according to the presently claimed invention are at least 2.1/1, Dozeman et al cannot anticipate such claims.

In addition, applicants note that Dozeman et al teaches foamed thermoplastic vulcanizates (TPVs) wherein the hardness of the base TPV is not explicitly disclosed. The compositions from the examples, and the preferred ranges mentioned in Dozeman however indicate that the base TPVs would have a hardness of above 35 shore A.

Thus, for example, at column 4, lines 1-5, a TPV is disclosed having 60 parts polypropylene, and an oil/EPDM ratio 1.4. Thus, Dozeman would neither anticipate nor render obvious the present invention for such reasons.

**C. Rejection Based on Hamanka et al**

Claims 1-10 and 13-19 attracted a rejection under 35 USC §102(b) as allegedly anticipated by or, in the alternative, under 35 USC §103(a) as obvious over Hamanka et al (USP 5,187,224). Applicants respectfully disagree with the Examiner's conclusion as Hamanaka et al do not disclose at all a thermoplastic elastomer composition according to applicants' pending claim 1.

In this regard, the Examiner states that entry 6 of Table 1 of Hamanaka et al. teaches a composition prepared by partially crosslinking 69 parts by weight (pbw) of EPDM, 69 pbw of oil 17 pbw of propylene-butene copolymer, and compounding the crosslinked product with 100 pbw of SEBS elastomer, 15 pbw of propylene-ethylene copolymer and 250 pbw of oil. In his calculation of the oil/elastomer ratio, the Examiner again has overlooked the presence of a second elastomer, namely SEBS.

The correct calculation of the ratio would thus be:  $(69 + 250 \text{ [total oil]}) / (69 + 100 \text{ [total elastomer]}) = \underline{1.89}$ . Similar calculations for the other entries in Table 1 lead to ratios of (1) 1.23; (2) 1.33; (3) 1.23; (4) 1.33; and (5) 1.63, respectively. As such, none of the compositions disclosed by Hamanaka et al satisfies the criterion of present claim 1 that the oil/elastomer ratio should be at least 2.1/1. Therefore presently pending claim 1 is novel with respect to the Hamanaka et al.

Moreover, as was discussed already above, none of the applied references of record teaches an oil/elastomer ratio of at least 2.1/1. In addition to this distinction, Hamanaka teaches that increasing the amount of softening agent (oil) causes bleeding of the softening agent and furthermore, increases the tackiness of the surface of molded products (Hamanaka et al, column 1 lines 45-50). Therefore, none of the cited

references give the ordinarily skilled person any incentive to use an oil/elastomer ratio near or even beyond 2.1/1 (or 2.5 as in claim 16 or 3/1 as in claim 17). In fact, Hamanaka et al teaches away from such a measure.

Thus, the presently claimed invention is not obvious over any of the cited documents, including Hamanaka et al, either alone or in combination with one another.

#### **D. Conclusion**

In conclusion, none of the applied references discloses a thermoplastic elastomer composition with an oil/elastomer ratio of at least 2.1/1. Hamanaka et al actually teaches away from such (high) oil/elastomer ratios. Therefore the claimed invention is novel with respect to, and not obvious over any of the cited references, either alone or in combination with each other.

#### **4. Fee Authorization**

The Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, in the fee(s) filed, or asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Account No. 14-1140.

Respectfully submitted,

**NIXON & VANDERHYE P.C.**

By:           /Bryan H. Davidson/            
Bryan H. Davidson  
Reg. No. 30,251

BHD:dlb  
901 North Glebe Road, 11<sup>th</sup> Floor  
Arlington, VA 22203-1808  
Telephone: (703) 816-4000  
Facsimile: (703) 816-4100